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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,689	02/26/2002	Mark A. Barnes	Time.146.2	1535

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TIME DOMAIN CORPORATION
7057 OLD MADISON PIKE
HUNTSVILLE, AL 35806

EXAMINER

CLINGER, JAMES C

ART UNIT PAPER NUMBER

2821

DATE MAILED: 03/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,689

Applicant(s)

BARNES ET AL.

Examiner

Jim Clinger

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 50-54 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-24, 32-35 and 55-57 is/are rejected.
- 7) ☒ Claim(s) 7, 25-31, 36-49 and 58-71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21, no antecedent basis for "said plane".

Claim Objections

3. Claims 27, 35 and 57 are objected to because of the following informalities: claim 27 appears to be missing some punctuation or a word or two in the second line; claims 35 and 57, appears to be missing a word after "affixed" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 54 is rejected under 35 U.S.C. 102(e) as being anticipated by Judd et al.(6,621,469).

Claim 54, figure 14 discloses a ground plane(86), and a transmitting row and receiving row of antenna elements(88).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-6, 8, 13, 15, 21-22 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.(6,175,333) in view of Behr(3,618,104).

Claims 1, 15 and 32, figure 13 of Smith discloses an antenna array, but not an ultra wideband array element. Figure 1 of Behr discloses a ground plane(18) with an antenna element affixed to a first surface to emit and receive ultra wideband signals.

Claim 2, figure 13 of Smith discloses an antenna array with at least one transmitting element(141).

Claims 3 and 21, figure 13 of Smith discloses antenna elements(140 & 141) disposed in parallel receiving and transmitting rows.

Claim 4, the antenna element disclosed in Behr exhibits an ultra wideband frequency response with a radial equidistant phase front in substantially all directions.

Claim 5, the antenna element disclosed in Behr is a monoloop.

Claims 6, 8, 13 and 33, the receiving elements(140) disclosed in figure 13 of Smith can be chosen to be equal in number to the transmitting elements(141) and are disposed in the receiving row such that each of the receiving elements(140) is aligned with respect to a corresponding transmitting element(141) disposed in the transmitting row with a unique spacing between corresponding elements.

Claim 22, figure 3 of Behr discloses a tab(40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the element disclosed in Behr in the antenna disclosed in Smith for wider band performance as disclosed in Behr.

8. Claims 10-12, 20 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Behr and further in view of Judd.

Claims 10-12, Judd discloses using dummy elements to create a symmetrical radiation pattern(col. 5, lines 27-34).

Claims 20, figure 6 of Judd discloses a fence(60) between the receive and transmit rows for improved isolation.

Claim 55, see claim 6 above.

It would have been obvious to one of ordinary skill in the art at the time of the invention to dummy elements and a fence as disclosed in Judd with the antenna disclosed in Smith and Behr for improved antenna performance.

9. Claims 9, 14, 16-19, 34 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Behr and further in view of Berkowitz(5,255,004).

Claims 17-18, figure 5 of Berkowitz discloses a first column with offset displaced elements.

Claims 16 and 19, figure 5 of Berkowitz discloses elements obliquely orientated with respect to neighboring elements.

Claims 9, 14, 34 and 56, Berkowitz discloses the random spacing of antenna elements(col. 7, lines 39-54).

The antenna element orientation and spacing results in improved antenna characteristics(abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to position the antenna elements disclosed in Behr as disclosed in Berkowitz to obtain desired antenna characteristics as disclosed in Berkowitz.

10. Claims 23-24, 35 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Behr and further in view of Koslover(5,323,169).

Claims 23-24, 35 and 57, Behr discloses a coaxial cable coupled to the antenna tab, not a waveguide coupled to the tab. Koslover discloses using a waveguide feed for an ultra wide band antenna for improved gain characteristics(abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a waveguide as disclosed in Koslover with the antenna element disclosed in Behr for improved gain characteristics.

Allowable Subject Matter

11. Claims 7, 25-31, 36-49 and 58-71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 50-53 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter. The following limitations are primarily responsible for distinguishing these claims over the prior art.

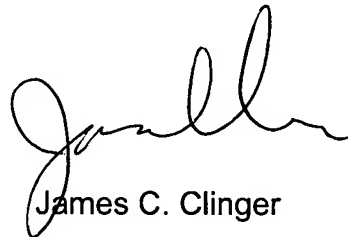
Regarding claim 7, the limitation concerning the relative orientation of the elements to create a symmetric product response with respect to aspect angle; regarding claims 25-26, 36-49 and 58-71, the limitations concerning the wave guides having unique lengths as recited in claims 25, 36 and 58; regarding claims 27-31, the limitation concerning the location and shape of the hollow region of the radome as recited in claim 27; and claims 50-53, the limitation concerning receiving a control signal from a non corresponding element as recited in independent claim 50.

Correspondence

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Clinger whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.



James C. Clinger